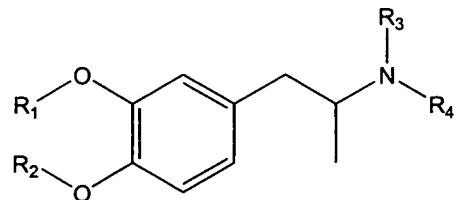


Claim Amendments

Please amend the claims as follows:

1. (currently amended) A compound of the formula:



Formula I

wherein: R^1 is H, lower alkyl, or a protecting group, or is taken together with R^2 to form a ring,

R^2 is H, lower alkyl, a protecting group, $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^6$ or $-(\text{CH}_2)_n\text{R}^6$ or is taken together with R^1 to form a ring,

R^3 and R^4 are independently H or lower alkyl or a protecting group, or, when R^1 is taken together with R^2 to form a ring, at least one of R^3 or R^4 is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^5$ or $-(\text{CH}_2)_n\text{R}^5$, or when R^1 is not taken together with R^2 to form a ring, at least one of R^3 and R^4 is not H or lower alkyl or a protecting group,

R^5 is H, OH, SH, O lower alkyl, halogen, NH₂, succinimidyl, maleimidyl, immunogenic carrier, or label,

R^6 is H, -OH, -SH, -O-lower alkyl, halogen, NH₂, -succinimidyl, maleimidyl, immunogenic carrier, or label, and

n is an integer from 1 to 5,

with the proviso that, when R^1 is CH₃, R^2 is not $\text{CH}_2\text{C}(\text{O})\text{R}^6$, and

with the proviso that, when R^1 is taken together with R^2 to form a ring and when only one of R^3 and R^4 is H or lower alkyl and the other of R^3 and R^4 is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^5$, R^5 is a protein, and including acid salts thereof.

2. (original) A compound according to Claim 1 wherein said immunogenic carrier is a poly(amino acid).

3. (original) A compound according to Claim 2 wherein said poly(amino acid) is a protein.

4. (original) Antibodies raised against the compound of Claim 3.

5. (original) A compound according to Claim 1 wherein n is 1.

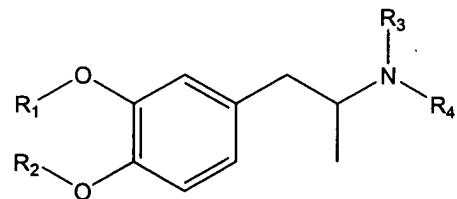
6. (currently amended) A compound according to Claim 1 wherein said label is an enzyme label, a luminescent label luminescer, or a radioisotope label.

Claims 7-12 (canceled).

13. (currently amended) A method for determining a compound selected from the group consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxyethylamphetamine (MDEA) and 4-hydroxy-3-methoxy-methamphetamine (HMMA), said method comprising:

(a) providing in combination in a medium:

- (i) a sample suspected of containing said compound and
- (ii) an antibody raised against a compound of the formula:



wherein: R^1 is H, or lower alkyl or is taken together with R^2 to form a ring,

R^2 is H, lower alkyl, $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^6$ or $-(\text{CH}_2)_n\text{R}^6$, or is taken together with R^4 to form a ring,

R^3 and R^4 are independently H or lower alkyl, or, when R^4 is taken together with R^2 to form a ring, at least one of R^3 or R^4 is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^5$ or $-(\text{CH}_2)_n\text{R}^5$, or when R^4 is not taken together with R^2 to form a ring, at least one of R^4 and R^2 is not H or lower alkyl,

~~R⁵ is an immunogenic carrier,~~

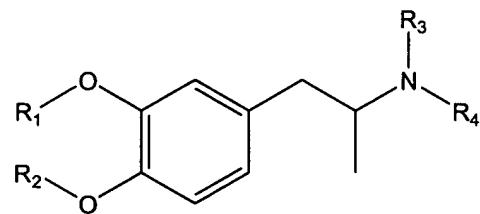
R⁶ is an immunogenic carrier, and

n is an integer from 1 to 5, and

(b) examining said medium for the presence a complex comprising said compound and said antibody, the presence thereof indicating the presence of said compound in said sample.

14. (original) A method according to Claim 13 wherein said combination further comprises:

(iii) a label conjugate of the formula:



wherein: R¹ is H, lower alkyl or is taken together with R² to form a ring,

R² is H, lower alkyl, -(CH₂)_nC(O)R⁶ or -(CH₂)_nR⁶, or is taken together with R¹ to form a ring,

R³ and R⁴ are independently H or lower alkyl, or, when R¹ is taken together with R² to form a ring, at least one of R³ or R⁴ is -(CH₂)_nC(O)R⁵ or -(CH₂)_nR⁵, or when R¹ is not taken together with R² to form a ring, at least one of R¹ and R² is not H or lower alkyl,

R⁵ is a label,

R⁶ is a label, and

n is an integer from 1 to 5, and

said examining comprises measuring signal from said label, the amount thereof being related to the presence of said compound in said sample.

15. (original) A method according to Claim 14 wherein said method is a homogeneous method and said medium is examined for the amount of said signal.

16. (original) A method according to Claim 14 wherein said method is a heterogeneous method and said complex, if present, is separated from said medium.

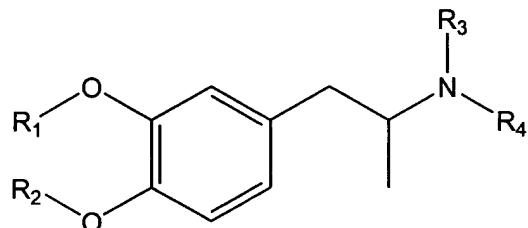
17. (original) A method according to Claim 14 wherein said protein is selected from the group consisting of KLH, BSA, BGG and ovalbumin.

18. (original) A method according to Claim 14 wherein n is 1.

19. (currently amended) A method according to Claim 15 wherein said label is an enzyme label, a luminescent label luminescer, or a radioisotope label.

20. (currently amended) A kit for determining a compound selected from the group consisting of 3,4-methylenedioxyamphetamine (MDA), 3,4-methylenedioxy-methamphetamine (MDMA), 3,4-methylenedioxymethylamphetamine (MDEA) and 4-hydroxy-3-methoxymethamphetamine (HMMA), said kit comprising:

(a) an antibody raised against a compound of the formula:



wherein: R¹ is H, or lower alkyl or is taken together with R² to form a ring,
R² is H, lower alkyl, -(CH₂)_nC(O)R⁶ or -(CH₂)_nR⁶, or is taken together with R¹ to form a ring,

R³ and R⁴ are independently H or lower alkyl, or, when R¹ is taken together with R² to form a ring, at least one of R³ or R⁴ is -(CH₂)_nC(O)R⁵ or -(CH₂)_nR⁵, or when R¹ is not taken together with R² to form a ring, at least one of R³ and R² is not H or lower alkyl,

R⁵ is an immunogenic carrier,

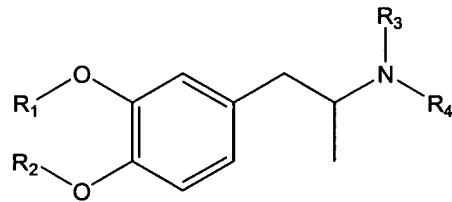
R⁶ is an immunogenic carrier, and

n is an integer from 1 to 5, and

(b) ancillary reagents for determining said compound.

21. (currently amended) A kit for determining a compound selected from the group consisting of 3,4-methylenedioxymphetamine (MDA), 3,4-methylenedioxymethamphetamine (MDMA), 3,4-methylenedioxymethylamphetamine (MDEA) and 4-hydroxy-3-methoxymethamphetamine (HMMA), said kit comprising:

- (a) an antibody for said compound,
- (b) a label conjugate of the formula:



wherein: ~~R¹ is H, or lower alkyl or is taken together with R² to form a ring,~~
~~R² is H, lower alkyl, -(CH₂)_nC(O)R⁶ or -(CH₂)_nR⁶, or is taken together with R¹ to form a ring,~~

~~R³ and R⁴ are independently H or lower alkyl, or, when R¹ is taken together with R² to form a ring, at least one of R³ or R⁴ is -(CH₂)_nC(O)R⁵ or -(CH₂)_nR⁵, or when R¹ is not taken together with R² to form a ring, at least one of R³ and R² is not H or lower alkyl,~~

~~R⁵ is a label,~~

~~R⁶ is a label, and~~

~~n is an integer from 1 to 5,~~

- (c) ancillary reagents for determining said compound.

22. (original) A kit according to Claim 20 wherein said protein is selected from the group consisting of KLH, BSA, BGG and ovalbumin.

23. (original) A kit according to Claim 20 wherein n is 1.

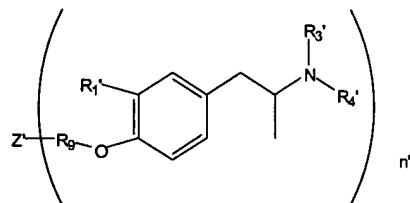
24. (currently amended) A kit according to Claim 21 wherein said label is an enzyme

label, a luminescent label luminescer, or a radioisotope label.

25. (original) A method for determining amphetamine and/or methamphetamine and/or methylenedioxymethamphetamine in a sample suspected of containing methylenedioxymethamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxymethamphetamine, said method comprising:

(a) providing in combination in a medium:

- (i) said sample,
- (ii) an antibody for methylenedioxymethamphetamine, and/or
- (iii) an antibody for methylenedioxymethamphetamine, and/or
- (iv) an antibody for methylenedioxymethamphetamine, and
- (v) a compound of the formula:



wherein:

R¹, is H, or methyl or ethyl

R³, is H,

R⁴, is H, or methyl or ethyl,

R⁹, is -(CH₂)_nC(O)R⁶, or -(CH₂)_nR⁶,

R⁶, is Z', which is an enzyme,

n' is an integer between 1 and the molecular weight of said enzyme divided by about 500; and

(b) examining said medium for the presence of a complex comprising said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine, the presence thereof indicating the presence of said methylenedioxymethamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxymethamphetamine in said sample.

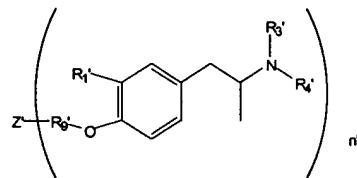
Claim 26 (canceled).

27. (currently amended) A method for determining methylenedioxymethamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxymethamphetamine in a sample suspected of containing methylenedioxymethamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxymethamphetamine, said method comprising:

(a) providing in combination in a medium:

(i) said sample,
(ii) a conjugate of an enzyme and a methylenedioxymethamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog,

(i) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R¹, is H, or methyl or ethyl

R³, is H,

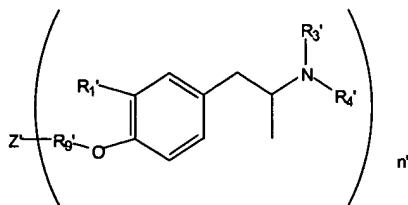
R⁴, is H,

R⁹, is -(CH₂)_nC(O)R⁶, or -(CH₂)_nR⁶,

R⁶, is Z', which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

(iv) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R^1' , is H, or methyl or ethyl

R^3' , is H,

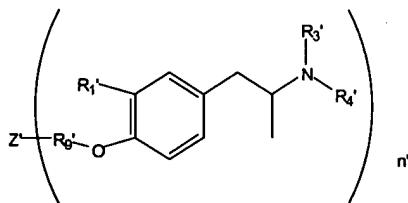
R^4' , is methyl,

R^9' , is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^6'$ or $-(\text{CH}_2)_n\text{R}^6'$,

R^6' is Z' , which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

(v) an antibody for methylenedioxyamphetamine, said antibody being raised against a compound of the formula:



wherein:

R^1' , is H, or methyl or ethyl

R^3' , is H,

R^4' , is ethyl,

R^9' , is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^6'$ or $-(\text{CH}_2)_n\text{R}^6'$,

R^6' is Z' , which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and

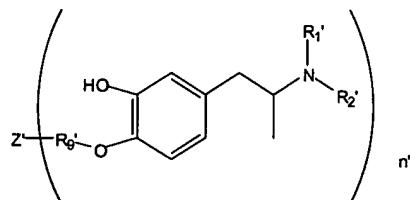
(b) examining said medium for the presence of a complex comprising said

methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine and/or a complex of said methylenedioxymethamphetamine and said antibody for methylenedioxymethamphetamine, the presence thereof indicating the presence of said methylenedioxymethamphetamine and/or methylenedioxymethamphetamine and/or methylenedioxymethamphetamine in said sample.

Claims 28-29 (canceled).

30. (currently amended) A kit comprising in packaged combination:

- (i) an antibody for methylenedioxymethamphetamine,
- (ii) an antibody for methylenedioxymethamphetamine, and/or
- (iii) an antibody for methylenedioxymethamphetamine, and
- (iv) a compound of the formula:



wherein:

R¹ is H,

R² is H, or methyl or ethyl,

R⁹ is -(CH₂)_nC(O)R⁵, or -(CH₂)_nR⁵,

R⁵ is Z', which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

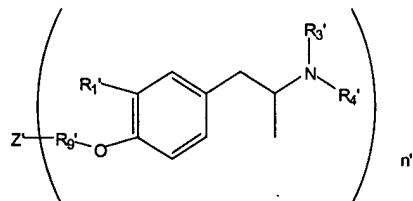
n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500.

31. (currently amended) A kit comprising in packaged combination:

- (i) a conjugate of an enzyme and a methylenedioxymethamphetamine analog and/or a conjugate of an enzyme and a methylenedioxymethamphetamine analog, and/or

a conjugate of an enzyme and a methylenedioxymethamphetamine analog, and

(ii) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R¹, is H, or methyl or ethyl

R³, is H,

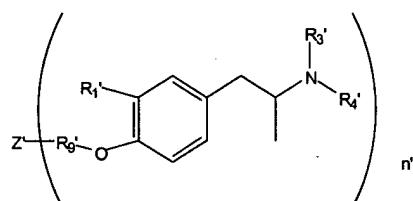
R⁴, is H,

R⁹, is -(CH₂)_nC(O)R⁶ or -(CH₂)_nR⁶,

R⁶, is Z', which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500; and/or

(iii) an antibody for methylenedioxymethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R¹, is H, or methyl or ethyl

R³, is H,

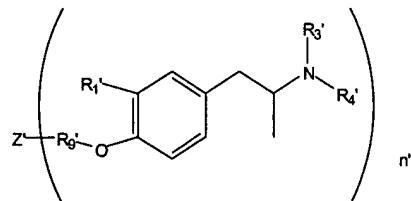
R⁴, is methyl,

R⁹, is -(CH₂)_nC(O)R⁶ or -(CH₂)_nR⁶,

R⁶, is Z', which is an immunogenic protein immunogenic carrier or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500, and/or

(iv) an antibody for methylenedioxyethamphetamine, said antibody being raised against a compound of the formula:



wherein:

R^1' is H, or methyl or ethyl

R^3' is H,

R^4' is ethyl,

R^9' is $-(\text{CH}_2)_n\text{C}(\text{O})\text{R}^6'$ or $-(\text{CH}_2)_n\text{R}^6'$,

R^6' is Z' , which is an immunogenic protein immunogenic carrier in or a non-poly(amino acid) immunogenic carrier,

n' is an integer between 1 and the molecular weight of said immunogenic protein immunogenic carrier or said non-poly(amino acid) immunogenic carrier divided by about 500.

Claim 32 (canceled).